

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A software update device ~~capable of communicating~~ configured to communicate with a target update device via a network, the software update device comprising:

a certification information setting unit ~~for generating~~ configured to generate a first certification information, and ~~transmitting~~ transmit the first certification information to the target update device via a first communication ~~path~~ protocol over the network;

a certification requesting unit ~~for transmitting~~ configured to transmit a second certification information to the target update device, and ~~requesting~~ request the target update device to execute a certification process with the first and second certification information; and

a transmitting unit ~~for transmitting~~ configured to transmit an update software ~~for updating that updates~~ a software of the target update device to the target update device via a second communication ~~path~~ protocol over the network when the certification process succeeds via the first communication protocol, the second communication ~~path~~ protocol having a process load less than that of the first communication ~~path~~ protocol.

Claim 2 (Currently Amended): The software update device as claimed in claim 1, further comprising a certification information invalidation requesting unit ~~for requesting~~ configured to request the target update device to invalidate the first certification information subsequent to the transmittal of the update software.

Claim 3 (Original): The software update device as claimed in claim 1, wherein the software of the target update device is updated when requested by an external unit.

Claim 4 (Currently Amended): The software update device as claimed in claim 3, further comprising a notification unit ~~for notifying~~ configured to notify a result of updating the software of the target update device to the external unit.

Claim 5 (Currently Amended): The software update device as claimed in claim 1, wherein the first communication ~~path~~ protocol is ~~a communication path for communicating by using~~ SSL.

Claim 6 (Currently Amended): The software update device as claimed in claim 1, wherein the second communication ~~path~~ protocol is ~~a communication path for communicating by using~~ FTP.

Claim 7 (Currently Amended): The software update device as claimed in claim 1, wherein data transmitted via the first communication ~~path~~ protocol is encoded, wherein data transmitted via the second communication ~~path~~ protocol is not encoded.

Claim 8 (Currently Amended): A software update system comprising:
a software update device; and
a target update device in communication with the software update device;
wherein the software update device ~~has~~ comprises:

a certification information setting unit ~~for generating~~ configured to generate a first certification information, and ~~transmitting~~ transmit the first certification information to a target update device via a first communication ~~path~~ protocol over the network,

a certification requesting unit ~~for transmitting~~ configured to transmit a second certification information to the target update device, and ~~requesting~~ request the target update device to execute a certification process with the first and second certification information, and

a transmitting unit ~~for transmitting~~ configured to transmit an update software ~~for updating~~ that updates a software of the target update device to the target update device via a second communication ~~path~~ protocol over the network when the certification process succeeds via the first communication protocol, the second communication ~~path~~ protocol having a process load less than that of the first communication ~~path~~ protocol;

wherein the target update device ~~has~~ comprises:

a memory unit ~~for storing~~ configured to store the first certification information,

a certification unit ~~for executing~~ configured to execute the certification process by using the first and second certification information when requested to execute the certification process, and ~~returning~~ return a result of the certification process to the software update device, and

an updating unit ~~for receiving~~ configured to receive the update software when the certification process succeeds, and ~~updating~~ update the software of the target update device.

Claim 9 (Currently Amended): The software update system as claimed in claim 8, wherein the software update device further ~~has~~ comprises a certification information invalidation requesting unit ~~for transmitting~~ configured to transmit an invalidation request to invalidate the first certification information to the target update device subsequent to the transmittal of the update software, and wherein the target update device further ~~has~~ comprises

a certification information invalidating unit ~~for invalidating~~ configured to invalidate the first certification information when receiving the invalidation request.

Claim 10 (Currently Amended): The software update system as claimed in claim 8, wherein the target update device further ~~has~~ comprises:

a restarting unit ~~for restarting~~ configured to restart the target update device after the software is updated by the updating unit,

a start notification transmitting unit ~~for transmitting~~ configured to transmit a start notification informing that the target update device is started to the software update device when the target update device is started, and

a version information transmitting unit ~~for transmitting~~ configured to transmit version information of the target update device in response to a request from the software update device;

wherein the software update device further has a version information unit ~~for obtaining~~ configured to obtain the version information by requesting the target update device to transmit the version information when the start notification is received after the transmittal of the update software, and confirming the update by comparing with version information of the transmitted update software.

Claim 11 (Currently Amended): The software update system as claimed in claim 8, wherein the first communication ~~path~~ protocol is ~~a communication path for communicating~~ by using SSL.

Claim 12 (Currently Amended): The software update system as claimed in claim 8, wherein the second communication ~~path~~ protocol is ~~a communication path for communicating by using~~ FTP.

Claim 13 (Currently Amended): The software update system as claimed in claim 8, wherein data transmitted via the first communication ~~path~~ protocol is encoded, wherein data transmitted via the second communication ~~path~~ protocol is not encoded.

Claim 14 (Currently Amended): A software update method using a software update device ~~capable of communicating~~ configured to communicate with a target update device via a network, the method comprising the steps of:

generating a first certification information;

transmitting the first certification information to the target update device via a first communication ~~path~~ protocol over the network;

transmitting a second certification information to the target update device;

requesting the target update device to execute a certification process with the first and second certification information; and

transmitting an update software ~~for updating~~ that updates a software of the target update device to the target update device via a second communication ~~path~~ protocol over the network when the certification process succeeds via the first communication protocol, the second communication ~~path~~ protocol having a process load less than that of the first communication ~~path~~ protocol.

Claim 15 (Original): The software update method as claimed in claim 14, further comprising a step of requesting the target update device to invalidate the first certification information subsequent to the transmittal of the update software.

Claim 16 (Original): The software update method as claimed in claim 14, wherein the software of the target update device is updated when requested by an external unit.

Claim 17 (Original): The software update device as claimed in claim 16, further comprising a step of notifying a result of updating the software of the target update device to the external unit.

Claim 18 (Original): The software update method as claimed in claim 14, further comprising the steps of:

receiving a start notification informing that the target update device is started;

obtaining version information of the software of the target update device from the target update device when the start notification is received after the transmittal of the update software; and

confirming the update by comparing with version information of the transmitted update software.

Claim 19 (Currently Amended): The software update method as claimed in claim 14, wherein the first communication path protocol is ~~a communication path for communicating~~ by using SSL.

Claim 20 (Currently Amended): The software update method as claimed in claim 14, wherein the second communication ~~path~~ protocol is ~~a communication path for communicating by using~~ FTP.

Claim 21 (Currently Amended): The software update method as claimed in claim 14, wherein data transmitted via the first communication ~~path~~ protocol is encoded, wherein data transmitted via the second communication ~~path~~ protocol is not encoded.

Claim 22 (Currently Amended): A computer readable storage medium encoded with computer executable instructions, which when executed by a computer, cause the computer to perform a method ~~program to be installed or executed by a computer for controlling that controls~~ a software update device ~~capable of communicating~~ configured to communicate with a target update device via a network, the ~~program~~ method comprising:

~~a generating function for~~ generating a first certification information;

~~a transmitting function for~~ transmitting the first certification information to the target update device via a first communication ~~path~~ protocol over the network;

~~a transmitting function for~~ transmitting a second certification information to the target update device;

~~a requesting function for~~ requesting the target update device to execute a certification process with the first and second certification information; and

~~a transmitting function for~~ transmitting an update software ~~for updating that updates~~ a software of the target update device to the target update device via a second communication ~~path~~ protocol over the network when the certification process succeeds via the first communication protocol, the second communication ~~path~~ protocol having a process load less than that of the first communication ~~path~~ protocol.

Claim 23 (Currently Amended): The ~~program~~ computer readable storage medium as claimed in claim 22, wherein the method further comprises ~~comprising a function of~~ requesting the target update device to invalidate the first certification information subsequent to the transmittal of the update software.

Claim 24 (Currently Amended): The ~~program~~ computer readable storage medium as claimed in claim 22, wherein the software of the target update device is updated when requested by an external unit.

Claim 25 (Currently Amended): The ~~program~~ computer readable storage medium as claimed in claim 24, wherein the method further comprises ~~further comprising a step of~~ notifying a result of updating the software of the target update device to the external unit.

Claim 26 (Currently Amended): The ~~program~~ computer readable storage medium as claimed in claim 22, ~~further comprising the functions of~~ wherein the method further comprises:

~~a receiving function for~~ receiving a start notification informing that the target update device is started;

~~an obtaining function for~~ obtaining version information of the software of the target update device from the target update device when the start notification is received after the transmittal of the update software; and

~~a confirming function for~~ confirming the update by comparing with version information of the transmitted update software.

Claim 27 (Currently Amended): The ~~program~~ computer readable storage medium as claimed in claim 22, wherein the first communication ~~path~~ protocol is ~~a communication path for communicating by using~~ SSL.

Claim 28 (Currently Amended): The ~~program~~ computer readable storage medium as claimed in claim 22, wherein the second communication ~~path~~ protocol is ~~a communication path for communicating by using~~ FTP.

Claim 29 (Currently Amended): The ~~program~~ computer readable storage medium as claimed in claim 22, wherein data transmitted via the first communication ~~path~~ protocol is encoded, ~~wherein and~~ data transmitted via the second communication ~~path~~ protocol is not encoded.

Claim 30 (Currently Amended): A communication device ~~capable of communicating~~ configured to communicate with a software update device via a network, the communication device comprising:

a certification information setting unit ~~for generating~~ configured to generate a first certification information, and ~~transmitting~~ transmit the first certification information to the software update device via a first communication protocol over the network;

a certifying unit ~~for executing~~ configured to execute a certification process, when receiving a second certification information from the software update device, by comparing the first and second certification information; and

an updating unit ~~for receiving~~ configured to receive an update software ~~for updating~~ that updates a software of the communication device from the software update device via a second communication ~~path~~ protocol over the network when the certification process

succeeds via the first communication protocol, and ~~updating~~ update the software of the communication device, the second communication ~~path~~ protocol having a process load less than that of the first communication ~~path~~ protocol.

Claim 31 (Currently Amended): The communication device as claimed in claim 30, further comprising a certification information invalidating unit ~~for invalidating~~ configured to invalidate the first certification information subsequent to the transmittal of the update software.

Claim 32 (Currently Amended): The communication device as claimed in claim 30, further comprising a control part ~~for instructing~~ configured to instruct an update of the software of the communication device.

Claim 33 (Currently Amended): The communication device as claimed in claim 30, further comprising:

a restarting unit ~~for restarting~~ configured to restart the communication device after the software is updated;

a start notification transmitting unit ~~for transmitting~~ configured to transmit a start notification informing that the communication device is started to the software update device when the communication device is started, and

a version information transmitting unit ~~for transmitting~~ configured to transmit version information of the communication device in response to a request from the software update device after the start after the transmittal of the start notification.

Claim 34 (Currently Amended): The communication device as claimed in claim 30, wherein the first communication ~~path~~ protocol ~~is a communication path for communicating by using~~ SSL.

Claim 35 (Currently Amended): The communication device as claimed in claim 30, wherein the second communication ~~path~~ protocol ~~is a communication path for communicating by using~~ FTP.

Claim 36 (Currently Amended): The communication device as claimed in claim 30, wherein data transmitted via the first communication ~~path~~ protocol is encoded, wherein data transmitted via the second communication ~~path~~ protocol is not encoded.

Claim 37 (Currently Amended): A software update system comprising:

a communication device; and

a software update device in communication with the communication device;

wherein the communication device ~~has~~ comprises:

a certification information setting unit ~~for generating~~ configured to generate a first certification information, and ~~transmitting~~ transmit the first certification information to the software update device,

a certifying unit ~~for executing~~ configured to execute a certification process, when receiving a second certification information from the software update device, by comparing the first and second certification information, and

an updating unit ~~for receiving~~ configured to receive an update software ~~for updating~~ that updates a software of the communication device from the software update device via a second communication ~~path~~ protocol over the network when the certification process

succeeds via the first communication protocol, and ~~updating~~ update the software of the communication device, the second communication ~~path~~ protocol having a process load less than that of the first communication ~~path~~ protocol;

wherein the software update device ~~has~~ comprises:

a memory unit ~~for storing~~ configured to store the first certification information,

a certification requesting unit ~~for transmitting~~ configured to transmit the second certification information to the communication device, and ~~requesting~~ request the communication device to execute the certification process with the first and second certification information, and

a transmitting unit ~~for transmitting~~ configured to transmit the update software to the communication device via the second communication ~~path~~ protocol over the network when the certification process succeeds.

Claim 38 (Currently Amended): The software update system as claimed in claim 37, wherein the communication device further ~~has~~ comprises a certification information invalidating unit ~~for invalidating~~ configured to invalidate the first certification information subsequent to the transmittal of the update software.

Claim 39 (Currently Amended): The software update system as claimed in claim 37, wherein the communication device further ~~has~~ comprises:

a restarting unit ~~for restarting~~ configured to restart the communication device after the software is updated,

a start notification transmitting unit ~~for transmitting~~ configured to transmit a start notification informing that the communication device is started to the software update device when the communication device is started, and

a version information transmitting unit ~~for transmitting~~ configured to transmit version information of the communication device in response to a request from the software update device;

wherein the software update device further has a version information unit ~~for obtaining~~ configured to obtain the version information by requesting the communication device to transmit the version information when the start notification is received after the transmittal of the update software, and confirming the update by comparing with version information of the transmitted update software.

Claim 40 (Currently Amended): The software update system as claimed in claim 37, wherein the first communication ~~path~~ protocol is ~~a communication path for communicating by using~~ SSL.

Claim 41 (Currently Amended): The software update system as claimed in claim 37, wherein the second communication ~~path~~ protocol is ~~a communication path for communicating by using~~ FTP.

Claim 42 (Currently Amended): The software update system as claimed in claim 37, wherein data transmitted via the first communication ~~path~~ protocol is encoded, wherein data transmitted via the second communication ~~path~~ protocol is not encoded.

Claim 43 (Currently Amended): A software update method using a communication device ~~capable of communicating~~ configured to communicate with a software update device via a network, the method comprising the steps of:

generating a first certification information;

transmitting the first certification information to the software update device via a first communication protocol over the network;

executing a certification process, when receiving a second certification information from the software update device, by comparing the first and second certification information;

receiving an update software ~~for updating~~ that updates a software of the communication device from the software update device via a second communication ~~path~~ protocol over the network when the certification process succeeds via the first communication protocol; and

updating the software of the communication device, the second communication ~~path~~ protocol having a process load less than that of the first communication ~~path~~ protocol.

Claim 44 (Original): The software update method as claimed in claim 43, further comprising a step of invalidating the first certification information subsequent to the transmittal of the update software.

Claim 45 (Original): The software update method as claimed in claim 43, further comprising a step of updating the software in response to an instruction to update the software from a control part.

Claim 46 (Original): The software update method as claimed in claim 43, further comprising the steps of:

restarting the communication device after the software is updated;

transmitting a start notification informing that the communication device is started to the software update device when the communication device is started; and

transmitting version information of the communication device in response to a request from the software update device after the start after the transmittal of the start notification.

Claim 47 (Currently Amended): The software update method as claimed in claim 43, wherein the first communication path protocol is ~~a communication path for communicating by using~~ SSL.

Claim 48 (Currently Amended): The software update method as claimed in claim 43, wherein the second communication path protocol is ~~a communication path for communicating by using~~ FTP.

Claim 49 (Currently Amended): The software update method as claimed in claim 43, wherein data transmitted via the first communication path protocol is encoded, wherein data transmitted via the second communication path protocol is not encoded.

Claim 50 (Currently Amended): A computer readable storage medium encoded with computer executable instructions, which when executed by a computer, cause the computer to perform a method ~~program to be installed or executed by a computer for controlling that controls~~ a communication device ~~capable of communicating~~ configured to communicate with a software update device via a network, the ~~program~~ method comprising:

~~a generating function for~~ generating a first certification information;

~~a transmitting function for~~ transmitting the first certification information to the software update device via a first communication protocol over the network;

~~an executing function for~~ executing a certification process, when receiving a second certification information from the software update device, by comparing the first and second certification information;

~~a receiving function for~~ receiving an update software ~~for updating that updates a~~ software of the communication device from the software update device via a second communication ~~path protocol over the network~~ when the certification process succeeds via the first communication protocol; and

~~an updating function for~~ updating the software of the communication device, the second communication ~~path protocol~~ having a process load less than that of the first communication ~~path protocol~~.

Claim 51 (Currently Amended): The ~~program~~ computer readable storage medium as claimed in claim 50, ~~further comprising a function of~~ wherein the method further comprises invalidating the first certification information subsequent to the transmittal of the update software.

Claim 52 (Currently Amended): The ~~program~~ computer readable storage medium as claimed in claim 50, ~~further comprising a function of~~ wherein the method further comprises updating the software in response to an instruction to update the software from a control part.

Claim 53 (Currently Amended): The ~~program~~ computer readable storage medium as claimed in claim 50, ~~further comprising~~ wherein the method further comprises:

~~a restarting function for~~ restarting the communication device after the software is updated;

~~a transmitting function for~~ transmitting a start notification informing that the communication device is started to the software update device when the communication device is started; and

~~a transmitting function for~~ transmitting version information of the communication device in response to a request from the software update device after the start after the transmittal of the start notification.

Claim 54 (Currently Amended): The ~~program~~ computer readable storage medium as claimed in claim 50, wherein the first communication ~~path protocol~~ is ~~a communication path for communicating by using~~ SSL.

Claim 55 (Currently Amended): The ~~program~~ computer readable storage medium as claimed in claim 50, wherein the second communication ~~path protocol~~ is ~~a communication path for communicating by using~~ FTP.

Claim 56 (Currently Amended): The ~~program~~ computer readable storage medium as claimed in claim 50, wherein data transmitted via the first communication ~~path protocol~~ is encoded, ~~wherein and~~ data transmitted via the second communication ~~path protocol~~ is not encoded.